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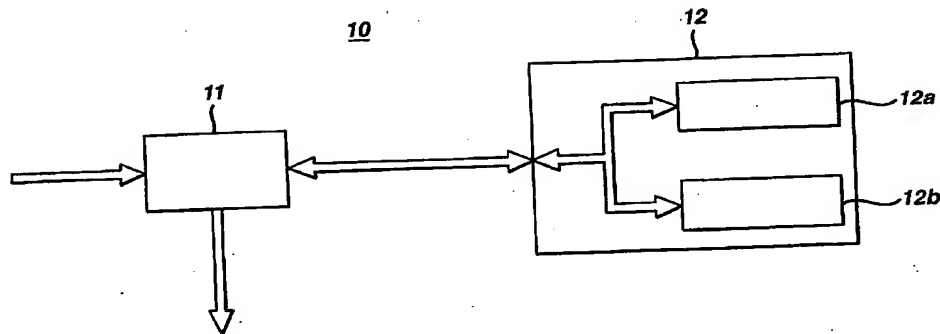
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(54) Title: STAGED LIFE-THREATENING ARRHYTHMIA DETECTION ALGORITHM FOR MINIMIZING POWER CONSUMPTION



(57) Abstract: A two-stage digital algorithm uses a highly sensitive low power digital first stage to detect one or more alarm conditions, and one or more complex digital subsequent stages that identify the detected alarm condition with more specificity. The one or more complex digital subsequent stages are not activated, and consume no power, until an alarm condition is sensed by the low power consumption digital first stage. Given that the second stage will process the data more rigorously, the low power first stage can be set to be more sensitive and generate what would otherwise be excessive alarms, which are ultimately filtered out by the subsequent stages. By staging the digital analysis algorithms, the present invention achieves high sensitivity for alarm conditions with low computational throughput and low power consumption, and achieves high specificity with more computationally intensive algorithms that only run occasionally.

WO 2005/086063 A2



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